

REMARKS

Status of Claims

Claims 1-16 are pending in this application, the independent claims being claims 1 and 9. By this Amendment, claims 1-7, 9 and 10 are amended.

Summary of Official Action

In the Action, claims 1 and 9 were rejected under 35 U.S.C. 102(e), as anticipated by U.S. Publication No. 2004/0013921 (Okada), and claim 8 was rejected under 35 U.S.C. 103(a), as unpatentable over the Okada '921 publication and U.S. Patent No. 6,761,987 (Marvin).

Reconsideration and withdrawal of the rejections respectfully are requested in view of the above amendments and the following remarks.

Allowable Subject Matter

Initially, Applicants gratefully acknowledge the Examiner's indication that the Application contains allowable subject matter, and that claims 2-7 and 10-16 are allowable over the prior art.

Summary of Interview

Applicants' attorney gratefully acknowledges the courtesies extended to him by Examiner Norman in granting a personal interview on August 2, 2005. In that interview, Applicants' attorney discussed various novel features of the claimed invention, and presented arguments distinguishing the claimed invention over the cited art. It was agreed that the Okada '921 publication fails to disclose or suggest the claimed invention. Specifically, it was agreed that the Okada '921 publication fails to disclose or suggest the feature of a hydrogen storage alloy, where a temperature of the hydrogen storage alloy at which the predetermined

hydrogen pressure becomes an equilibrium pressure is higher than a temperature of the fuel cell during steady operation, as disclosed in the present application and recited in claim 1 (and similarly recited in method format in independent claim 9). Applicants' attorney also presented draft claim amendments to improve the form of the claims; Examiner Norman tentatively approved the proposed amendments as merely formal in nature. The Examiner noted the final feature of "a heat exchange module that cools down refrigerant that has passed through said fuel cell and/or said hydrogen storage tank," and questioned whether the term "and/or" made this feature indefinite; Applicants' attorney agreed to consider and address this issue in responding to the Official Action.

Formal Amendments to the Claims

The rejection of the claims over the cited art respectfully is traversed. Nevertheless, without conceding the propriety of the rejections, claims 1-7 and 9 have been amended herein to improve their form, as discussed in the Examiner interview. No new matter has been added.

Regarding the Examiner's question at the interview relating to the term "and/or," Applicants submit that independent claims 1 and 9 satisfy all of the requirements of 35 U.S.C. 112, and are in allowable form. In particular, Applicants submit that the recited feature of "a heat exchange module that cools down refrigerant that has passed through said fuel cell *and/or* said hydrogen storage tank" is definite and fully supported by the original application; for example, Fig. 5 illustrates an embodiment in which a heat exchange module (e.g., radiator 50 and fan 52) cools down refrigerant that has passed through fuel cell 30 and/or hydrogen storage tank 20, where a refrigerant channel 170 is provided that circulates refrigerant between the fuel cell 30 and hydrogen tank 20, and the hydrogen tank 20 is provided with a hydrogen storage alloy according to the claimed invention.

Prior Art Distinguished

Applicants submit that the prior art fails to anticipate the claimed invention.

Moreover, Applicants submit that there are differences between the subject matter sought to be patented and the prior art, such that the subject matter taken as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made.

The Okada '921 publication relates to a method of absorption-desorption of hydrogen storage alloy and hydrogen storage alloy and fuel cell using such method, and discloses a hydrogen cell system including a hydrogen fuel cell, a hydrogen storage unit including a hydrogen storage alloy, a heat exchanger, and refrigerant channels for channeling refrigerant between the heat exchanger and the hydrogen fuel cell and the between the heat exchanger and the hydrogen storage unit. However, as agreed at the August 2 personal interview, the Okada '921 publication fails to disclose or suggest the feature of a hydrogen storage alloy, where a temperature of the hydrogen storage alloy at which the predetermined hydrogen pressure becomes an equilibrium pressure is higher than a temperature of the fuel cell during steady operation, as disclosed in the present application and recited in claim 1 (and similarly recited in method format in independent claim 9).

The Marvin '987 patent relates to a fuel cell system having an energy source backup, and was cited for its alleged disclosure of a proton exchange membrane fuel cell. Without conceding the propriety of the characterization of the Marvin '987 patent, Applicants submit that the Marvin '987 patent fails to disclose or suggest at least the above-discussed features of hydrogen storage alloy, as disclosed in the present application and recited in claims 1 and 9. Nor is the Marvin '987 patent understood to add anything to the Okada '921 publication that would make obvious the claimed invention.

For the above reasons, Applicants submit that claims 1 and 9 are allowable over the cited art.

Claims 2-8 and 10-16 depend from claims 1 and 9 and are believed allowable for the same reasons. Moreover, each of these dependent claims recites additional features in combination with the features of its respective base claim, and is believed allowable in its own right. Individual consideration of the dependent claims respectfully is requested.

Conclusion

Applicants believe the present Amendment is responsive to each of the points raised by the Examiner in the Official Action and the personal interview, and submit that the application is in condition for allowance. Favorable consideration of the claims and passage to issue of the present application at the Examiner's earliest convenience earnestly are solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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